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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,445	02/11/2005	Edmund Potsch	5367-123PUS	4452

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EXAMINER

KARIMI, PEGEMAN

ART UNIT	PAPER NUMBER
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2609

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/524,445	Applicant(s) POTSCH, EDMUND	
	Examiner Pegeman Karimi	Art Unit 2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 02/11/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 17 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>02/11/2005 and 03/13/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawing Fig. 7 is objected to because character 13 needs to be pointing at the nodes of the lattice. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 5 recites the limitation "The pixel spacing" in line 2. There is insufficient antecedent basis for this limitation in the claim.
6. Claim 6 recites the limitation "The angle" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

8. Claims 1, 2, 5, 10, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Inou (U.S. Patent 6,078,274).

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As to claim 1, Inou discloses a display apparatus (4, 7, 8, 2a, and 2b, Fig. 2)

comprising:

a display layer (3) and

a touch-sensitive layer (2b) running parallel thereto (layers 3 and 2b are in parallel), wherein

that side of the touch-sensitive, which is remote from the display layer (3), (below layer 2b) has an antireflection lattice (8), (col. 4, lines 42-43) comprising lattice elements which can move toward one another (i.e. a user touches a flexible substrate 3 causing the top lattice 8 to get closer to the bottom lattice 8).

As to claim 2, Inou teaches the lattice elements (8) are of strip-like design (Fig. 2, the lattice elements are formed in a strip-like pattern), the lattice elements being able to move toward one another at nodes of the lattice (Fig. 3, location where four closest corners of square 8 meets), (force vector of pressure in vertical or diagonal direction would bend the edges and corners/nodes of the lattice elements).

As to claim 5, Inou teaches the lattice spacing (DW, Fig. 8) is matched to the pixel spacing on the display layer (col. 8, lines 1-5) such that the ratio of the lattice

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spacing to the pixel spacing is whole-numbered (col. 7, lines 59-64), (Calculating the

ratio by $\frac{Pd}{P} = \frac{100\mu m}{200\mu m} \Rightarrow ratio = 1:2$, which 1 and 2 are whole numbers).

As to claims 10 and 11, Inou discloses a display apparatus (4, 7, 8, 2a, and 2b, Fig. 2) comprising:

a display layer (3) and

a touch-sensitive layer (2b) running parallel thereto (elements 3 and 2b are in parallel, Fig. 1), wherein

that surface of the touch-sensitive layer which is remote from the display layer (3), (below layer 2b), has a lattice-like surface texturing (8, Fig. 3), the lattice spacing being matched to the pixel spacing on the display layer (col. 8, lines 1-5) such that the ratio of the lattice spacing to the pixel spacing is whole-numbered (col. 7, lines 59-64),

(Calculating the ratio by $\frac{Pd}{P} = \frac{100\mu m}{200\mu m} \Rightarrow ratio = 1:2$, which 1 and 2 are whole numbers).

9. Claim 15 is rejected under 35 U.S.C. 102(a) as being anticipated by Furuhashi (U.S. pub. No. 2002/0000979).

As to claim 15, Furuhashi teaches a display apparatus (Fig. 1) comprising:

a display layer (300) and a touch-sensitive layer (100) running parallel thereto, wherein the touch-sensitive layer comprises strip-like lattice elements (9, [0105], lines 9-12) arranged in lattice form (dots, bank-like, strip-like, or etc. shapes), and touch sensors integrated into the nodes of the lattice (touch sensor 4 is integrated on substrate 2 and below element 9, see Fig. 14).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inou (U.S. Patent 6,078,274) in view of Furuhashi (U.S. Pub. No. 2002/0000979 A1).

As to claim 3, Inou does not teach bristle -like design. Furuhashi teaches the lattice elements are of bristle-like design ([0105], lines 9-12). Therefore it would be obvious to one of ordinary skill in the art at the time the invention was made to have substituted the bristle-like design of Furuhashi to the touch panel of Inou to prevent the upper and lower resistance films from contacting with each other at a normal time, the spacers (lattice elements) are not limited to dot-like shapes, but may have any shapes

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such as bank-like shapes, strip-like shapes, or the like, if these shapes are not obstacles to input operation ([0104], lines 2-4; [0105], lines 9-12)

As to claim 4, Furuhashi teaches the lattice elements are of stud-like design ([0105], lines 9-12).

12. Claims 6, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inou (U.S. Patent 6,078,274) in view of Miura (U.S. Patent 5,647,152).

As to claim 6, Inou teaches a touch sensitive layer (2b), but does not teach the angle adjustment of the lattice elements. Miura teaches the angle between the lattice elements (2) and the display layer (1) is adjustable (col. 11, lines 6-19). Therefore it would be obvious to one of ordinary skill in the art at the time the invention was made to have used the adjustable angle between the lattice and display layer of Miura to the touch panel of Inou that even if the relative positional relationship between the visual point and the display screen is shifted up and down due to the installation condition, the image disturbing ratio by the light-shielding grating can be minimized to maintain satisfactory visibility by inclining only the light-shielding grating member frontward and backward without inclining the display as a whole (col. 2, lines 54-60)

As to claim 8, Furuhashi does not teach a light-absorbent material. Miura teaches lattice elements (2, Fig. 2) are comprised of a light-absorbent material (col. 5, line 17-22).

As to claim 9, Miura teaches the antireflection lattice (2) is removable (Fig. 9, by removing bolts 26a and 25a one can remove the lattice element).

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inou (U.S. Patent 6,078,274) in view of Miura (U.S. Patent 5,647,152) and further in view of Palffy-Muhoray (U.S. Patent 6,239,778).

As to claim 7, Furuhashi and Miura do not teach automatically adjusting the angle. Palffy-Muhoray teaches a means (15, Fig. 2) for automatically adjusting the angle (liquid crystal material) on the basis of the angle of the incident ambient light (col. 5, lines 38-39 and lines 49-51). Therefore it would be obvious to one of ordinary skill in the art at the time the invention was made to have used the automatic adjusting angle of Palffy-Muhoray to the touch sensitive display of Inou as modified by Miura because adjustment of the variable voltage supply alters the light transmission properties of the cell by adjusting the orientation of the dichroic dye. (col. 2, lines 20-23).

14. Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inou (U.S. Patent 6,078,274) in view of Palffy-Muhoray (U.S. Patent 6,239,778).

As to claim 12, note the discussion of Inou above. Inou teaches a touch-sensitive layer (2b). Inou does not teach the lattice elements made of liquid crystals. Palffy-

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Muhoray teaches the lattice elements (22, 24) are made of liquid crystals (col. 3, lines 46-48). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added the liquid crystal lattice of Palfy-Muhoray to the touch-sensitive device of Inou to control the orientation of the molecules of the host liquid crystal material 22 and the absorption by dichroic dye 24 of entering light 26a passing through cell 10 increases. The net result is a decrease in transmitted light 26b in the energized state (col. 4, lines 48-51).

As to claim 14, this claim differs from claim 7 only in that the limitation "optical properties" is additionally recited. Palfy-Muhoray clearly teaches the optical properties as voltage alters the orientation of the host liquid crystal material 22).

15. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inou (U.S. Patent 6,078,274) in view of Zhang (U.S. Pub. No. 2002/0075557).

As to claim 13, Inou does not teach an electrochromic material. Zhang teaches a lattice elements (16) being made of an electrochromic material (630, Fig. 7a), ([0061], line 1-4). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the electrochromic material of Zhang to the display panel of Inou because the electrochromic material of Zhang is to improve contrast. ([0018], lines 1-2)

16. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Furuhashi (U.S. Pub. No. 2002/0000979) in view of Kasser (U.S. Patent 5,790,107).

As to claim 17, Furuhashi does not teach a capacitive sensor element. Kasser teaches the touch sensors (105, Fig. 2) are capacitive sensor elements (15, Fig. 1), (col. 3, lines 10-13). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the capacitive sensor of Kasser to the display apparatus of Furuhashi because it achieves good resolution, light touch operation, and good finger tracking reasonably quickly and at relatively low expense (col. 3, lines 66-67, and col. 4, lines 1-3).

Allowable Subject Matter

17. Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Kubo (U.S. Patent 6,456,279) discloses a liquid crystal display device has a position information input device over an image-displaying surface of liquid crystal panel.

Bottari (U.S. Pub. No. 2004/0189612) discloses a touch sensing methods and systems implement an optical control layer to direct light through a touch sensor.

Inquiries

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pegeman Karimi whose telephone number is (571) 270-1712. The examiner can normally be reached on Monday-Thursday 8:00am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571) 272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Pegeman Karimi
05/07/2007


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